REMARKS/ARGUMENTS

This amendment is submitted in response to the Office Action dated December 2, 2008. After entry of this amendment, claims 1-3, 5-9, 11-16, 18-22 and 24 will continue to be pending in the application. Claims 1, 5, 6, 11, 12, 14, 18, 19 and 24 have been amended. Claims 4, 10, 17 and 23 have been canceled.

Reconsideration and allowance is respectfully requested in view of the remarks made below.

1. Claim Objections

Claims 6, 12 and 19 have been objected to under 37 CFR 1.75 (c), as being in improper dependent form for failing to further limit the subject matter of a previous claim. In particular claims 4, 10 and 17 require a "knowledge based model...derived using one or more of formulations." Claims 5, 11 and 18 require that the "knowledge based model is an optical power propagation." Claims 6, 12 and 19 requires that the "optical power propagation model is derived using one more of formulations." The Office Action asserts that claims 6, 12 and 19 fail to further limit the limitations in the claims they are depending from.

By action of this amendment claims 4, 10 and 17 have been canceled and the limitations found therein have been incorporated into independent claims 1 and 14. Claims 5, 11 and 18 have been amended to now depend from claims 1, 8 and 14 respectively. Claims 6, 12 and 19 have been amended to now require that the optical power propagation model is derived using "a formula selected from the group consisting of a Rayleigh Sommerfeld formulation and an angular spectrum solution to a Rayleigh Sommerfeld formulation." The Applicant respectfully submits that claims 6, 12 and 19 as amended further limit the limitations of the claims they are depending from and request notice to that effect.

2.   The Rejection under 35 U.S.C. § 102

Claims 1-3, 7-9, 14-16 and 20-22 stand rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 7,068,891 to Cook et al. (hereinafter "Cook").

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). See MPEP 2131.

Cook discloses a stage positioning system and method for aligning optical components. See *Cook*, the abstract. The system is directed to positioning an article with six degrees of freedom about a selectable pivot point. See *Cook*, col. 4, lines 19-21. Disclosed is an optical pig-tailing instrument 100 which provides automated optical fiber alignment to an optoelectronic device 102 using a multi-axis high precision stage assembly 120 located within a housing. See *Cook*, col. 6, lines 36-43. The stage assembly 129 positions an optical fiber 104 based upon the fidelity of the junction between the optical fiber 104 and the devices 102. See *Cook*, col. 6, lines 36-43. A simple feedback loop is used in order to optimize performance. See *Cook*, col. 14, lines 10-20. The Office Action acknowledges that Cook does not disclose having a knowledge based model derived using one or more of a Rayleigh-Sommerfeld formulation, an angular spectrum solution to a Rayleigh-Sommerfeld formulation, a Ray formulation, a Gaussian formulation, a Fraunhofer Field Formulation, a Fresenel Field formulation, and vector solutions to Maxwell's equations. See *The Office Action*, page 6.

The Applicant's present invention is a system and method for the assembly and packaging of optoelectronic devices that utilizes a knowledge based model. In the Applicant's present invention specific formulas are used in order to optimize the parameters in a manner that is not typically accomplished by simple feedback loops. See *The Specification*, pages 3-4. Claims 1 and 14 have been amended to now disclose having a knowledge based model derived using one or more of a Rayleigh-Sommerfeld formulation, an angular spectrum solution to a Rayleigh-Sommerfeld formulation, a Ray formulation, a Gaussian formulation, a Fraunhofer

Field Formulation, a Fresenel Field formulation, and vector solutions to Maxwell's equations. As acknowledged in the Office Action, Cook does not disclose this limitation.

Therefore claims 1 and 14 are no longer anticipated by Cook and the rejection under 35 U.S.C. § 102(e) has been overcome. The Applicant respectfully submits that claims 1 and 14 are now in condition for allowance. Claims 2-3, 5-9, 11-13, 15-16, 18-22 and 24 are also in condition for allowance by virtue of their dependence upon allowable base claims.

3.   The Rejection under 35 U.S.C. § 103

Claims 4-6, 10-13 and 17-24 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Cook in view of U.S. Patent No. 5,454,004 to Leger (hereinafter "Leger"). Claims 4, 10, 17 and 23 have been canceled; however, the limitations contained therein have been incorporated into independent claims 1 and 14.

A statement that modifications of the prior art to meet the claimed invention would have been "'well within the ordinary skill of the art at the time the claimed invention was made'" because the references relied upon teach that all aspects of the claimed invention were individually known in the art is not sufficient to establish a *prima facie* case of obviousness without some objective reason to combine the teachings of the references. *Ex parte Levengood*, 28 USPQ2d 1300 (Bd. Pat. App. & Inter. 1993). See also *In re Kotzab*, 217 F.3d 1365, 1371, 55 USPQ2d 1313, 1318 (Fed. Cir. 2000).

Leger discloses a method for making a custom phase-conjugating diffractive mirror for a laser resonator. In the custom phase-conjugated diffractive mirror laser resonator a laser beam 100 oscillates in the cavity formed by the output mirror 121, laser gain medium 123, and custom phase-conjugated diffractive mirror 124. See *Leger*, col. 3, lines 5-15. In Leger, the resulting field of the selected profile propagated through the gain medium 123 to the phase plate is calculated by the Rayleigh-Sommerfeld diffraction formula. See *Leger*, col. 11, lines 64-67. The reflectance of the diffractive mode-selecting mirror is then chosen to return the phase conjugate of this calculated distribution. See *Leger*, col. 12, lines 22-24. There is no discussion in Leger regarding the assembly of optoelectronic devices, the usage of knowledge based models, or the application of such models in the methods and assembly of optoelectronic

devices. There is also not suggestion of how this would be applied to an optical power propagation model.

The Office Action suggests that it "would have been obvious to a person of ordinary skill in the art at the time of applicant's invention to modify the teaching of Cook to include "a Rayleigh-Sommerfeld formulation", to return the phase conjugate of this calculated distribution." See *The Office Action*, page 6. However, the Office action has not provided any reasoning or rationale in support of this position, merely a statement that this would have been obvious. The Applicant respectfully submits that this would not have been obvious for the following reasons:

1) Leger is directed towards making a custom phase-conjugating diffractive mirror for a laser resonator, not for the assembly of optoelectronic devices. One of ordinary skill in the art would not look towards methods for making a custom phase-conjugating diffractive mirror in order to optimize the assembling of optoelectronic devices and instead would be looking to similar systems of assembly.
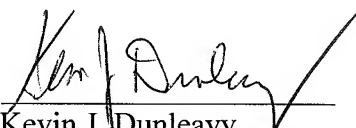
2) There is no discussion in either Cook or Leger as to how one would take the abstracted concept of the Rayleigh-Sommerfeld formulation and apply it to a knowledge model or how that application would affect the overall systems and methods of that which it is disclosed. Simply because Leger acknowledges the existence of and provides a use for the Rayleigh-Sommerfeld formulation it does not logically follow that one would instantly be cognizant of all possible applications and uses. Indeed the Applicant's present invention utilizes this knowledge-based model to improve over existing methods for manufacturing optoelectronic devices, which is something that is not taught in the prior art or even suggested.

The Applicant respectfully submits that a *prima facie* case for obviousness has not been established for claims 4-6, 10-13 and 17-24 since the Office Action does not provide any objective reason to combine the teachings of the references, nor would such a reason be available due to the nature of the cited prior art. Claims 1 and 14, which incorporate the limitations found within canceled claims 4, 10, 17 and 23, are therefore in condition for allowance. Claims 2-3, 5-9, 11-13, 15-16, 18-22 and 24 are also in condition for allowance by virtue of their dependence upon allowable base claims.

---

4.   Conclusion

Applicant has made an earnest effort to place this application in condition for allowance.
If the Examiner feels that a telephone interview would expedite prosecution of this patent
application, he or she is respectfully invited to telephone the undersigned at 215-599-0600.

Respectfully submitted,

Kevin J. Dunleavy
Registration No. 32/024

Date: December 23, 2008

KNOBLE YOSHIDA & DUNLEAVY, LLC
Eight Penn Center- Suite 1350
1628 John F. Kennedy Boulevard
Philadelphia, PA 19103
(215) 599-0600 Main
(215) 599-0601 Fax